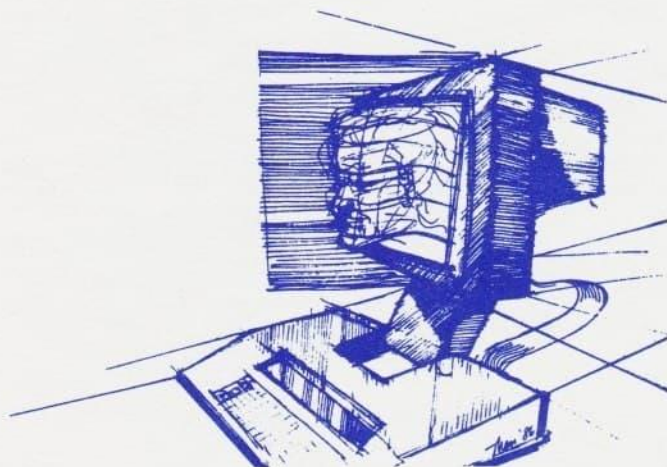


OTTAWA HOME COMPUTING

May 26, 1986

Vol. 3, No. 1

\$1.60



ARTIFICIAL INTELLIGENCE

INSIDE...

Editorial	3
May Agenda	4
Upcoming Meetings	4
April Minutes	5
Volume 2 in Review	6
Something Cheap, Something Fast	7
THIS MONTH'S THEME:	
Is A.I. in Our Future?	8
C-64 Game Design	10
Search-a-word Puzzle	11
Ramblings	12

C-64 DISK OF THE MONTH

The C-64 Disk of the Month is carried at the stores listed below. It sells for \$4.50 and is available two days after each meeting.

ALI COMPUTERS	1152 Ogilvie Road	744-0220
COMPUCENTRE	Carlingwood Mall Rideau Centre	729-0448 230-3672
MEDIA LAND (G-Plus)	130 Albert Street 301 Moodie Drive	230-7750 820-7326
MR DISKETTE	119 O'Connor Street	232-5203
SILICON ALLEY	79 Bank Street	232-2968
ZAP & ZOOM	435 Kent Street	232-4400



RENEWAL TIME

NAME _____

ADDRESS _____

CITY _____ PROV. _____

POSTAL CODE _____ PHONE _____

COMPUTER _____ OHC # _____

PLEASE MAKE CHEQUES PAYABLE TO: (\$15/YEAR)
OTTAWA HOME COMPUTING
P.O. BOX 4164, STATION 'C', OTTAWA, ONTARIO, K1Y 4P3

OTTAWA HOME COMPUTING

OTTAWA HOME COMPUTING is the newsletter of the Ottawa Home Computing Club. Membership is open to all with a genuine interest in personal computing for \$15/year in Canada. Membership includes OTTAWA HOME COMPUTING, which is published 10 times a year. Meetings are usually held on the third Monday of each month, 7:30 p.m. at Charlebois High School, corner of Heron Road and Alta Vista Drive in Ottawa.

When submitting articles, please type or write legibly on 8 1/2 by 11 inch paper, double spaced. Articles may also be submitted on disk, or in a "print-ready" format. Contact the editor for more information.

Permission to reprint articles appearing herein is hereby granted, provided credit to both the author and Ottawa Home Computing is given.

Advertisements of personal items up to 25 words for one insertion per issue are free to members. Inquire for commercial rates.

Address correspondence to:

Ottawa Home Computing Club,
P.O. Box 4164, Station "C",
Ottawa, Ontario K1Y 4P3

CLUB EXECUTIVE

President	
Paul Irwin	728-6728
Secretary/Treasurer	
Pierre Castricum	521-6840
Membership	
Mike Bryan	723-0404
Bulletin Board Editor	
Don White	829-2082
Newsletter Editor	
Bob Mason	837-3197
Apple Librarian	
Scotty Adams	225-0345
Commodore Librarian	
Paul Anderson	521-3116
Education Director	
Wayne Schaler	728-7811
Director at Large	
Marv Bero	225-8551
Bulletin Board	723-2252

OTHER RESOURCE PEOPLE

Retail Disk Distribution	
Peter Martin	731-7700
COMAL Librarian	
Ed Steenhorst	820-5389
Ottawa Home Computing Editor:	
Bob Mason,	
Box 183, R.R. 2,	
Orleans, Ontario K1C 1T1	

EDITORIAL

by Bob Mason

It's Club Election time again, and an excellent opportunity for interested people to get involved in the club. No rigid qualifying tests, bilingualism requirements or height restrictions -- just an interest in computing.

The Executive has rightly decided that a number of the executive positions would be better filled by appointment, rather than election. That is what in fact happened in the past. That's how I got to be here tonight writing this. I just showed an interest in the Newsletter, helped out a bit, and bang-o.

If you are interested in

helping out in any area, talk to a member of the executive, express your interest, and we'll see how we can get you involved. Several of the vacant positions require no special computer expertise. Most do involve time, and they will make you use your computer. And you learn a lot along the way.

A chap named Bruce Brown has a classified ad on page 14. He's interested in re-inking printer ribbons and then reselling them at a reduced price. Might be a good source for cheaper ribbons. Anyway, if you just throw yours out, maybe you should give him a call.

=====

NOTE

- The May meeting in on May 26.
- There will be no Newsletter published in June.
- The June meeting will be held on June 16.

AGENDA

May 26 Meeting

7:30 Disk of the Month
Membership Sales
Socialization

8:00 Business Meeting and
Election of Executive

8:30 Artificial Intelligence
(see note in "Upcoming
Meetings")

9:00 Special Interest Groups

Group Room

Apple & Mac Room 227
Browse through the library,
order disks, discuss applica-
tions, problems, etc.

Commodore and
Disk of the Month Room 219
Same as above, but for Com-
modore. If Paul Anderson
doesn't have the answer for
you, he'll direct you to some-
one who does.

Amiga Room 208
Don White has put together
a number of disks of public
domain software for the Amiga.
You can buy the disks, watch
his demos, and ask questions.

COMAL Room 221
Comal is a programming
language similar to BASIC, but
much faster, more powerful,
and easier to use. Find out
about it.

Forth Room 230
Forth language is shorter

and faster than BASIC. (20 to
600 times faster). Used with
robots, sensors, and many ap-
pliances. Much more.

SPECIAL INTEREST GROUPS

The following are Special
Interest Groups (SIGs) which
meet monthly and determine
their own format. If you're
interested in developing fur-
ther in one of these, fields,
drop in. You're sure to find
someone who shares your in-
terest.

Computer Graphics Room 223

Beginning Computerists Rm 224

Telecommunications Room 212

Data Base Users Room 213

Machine Language Room 215

Music Room 225

More details and possible
room changes will be indicated
at the meeting. Some groups
are now meeting on other even-
ings during the month, to give
themselves additional time to-
gether.

UPCOMING MEETINGS

May 26

The topic for the meeting
is Artificial Intelligence,
that is to say, a method by
which computers can learn.
While computers can not yet
truly "learn", that day will
surely come. Then they won't
be much fun to play chess
against, but they will be much
more user friendly. And this
seems to be the direction the
Japanese are pushing for their
computers.

Also at this meeting, elec-
tions for the new executive

will take place. See the details in the April minutes for more information.

Future Meetings

Topics are not linked with dates for future meetings. The topics now proposed for the next two meetings are *Robotics and Copyright Legalities*.

Dates for future meetings are as follows:

June 16

July 21

August 18

The *Newsletter* has an irregular schedule over the summer and will be produced in the following months:

July (no issue)

August in June or

October September)

If you would like to submit an article to the *Newsletter*, please give it to me at the meeting (I'll be by the stairs on the far wall), or mail it to me during the week of the meeting, and I'll get it in the next issue.

MINUTES -- APRIL MEETING

by Bob Nason

The meeting was held on Monday April 21, at Charlebois High School. Pierre Castricum chaired the meeting and Paul Irwin opened it with the election announcements.

The Executive had decided to restructure itself, making many of the specialized positions "Appointed" rather than "Elected" positions. These include the Librarians (Apple, Commodore 64/VIC, TPUG, COMAL, Store Sales, and the new Amiga and C128-CP/M libraries), the BBS editor, the Newsletter Editor, and the Membership Chairman.

Elected positions include the President, Treasurer, Edu-

cation Director and the new positions of Vice-President and Secretary.

In the Elected positions, the Executive has nominated the following:

President	Pierre Castricum
Vice-Pres.	Scotty Adams (nee Anderson)
Secretary	<u>vacant</u>
Treasurer	Mike Bryan
Educ. Dir.*	Wayne Schaler

In the Appointed positions, the following have been named:

BBS Editor	Don White
Librarians	
Apple	<u>vacant</u>
C64/VIC	Paul Anderson
TPUG	Marv Bero
Amiga	Don White
COMAL	Ed Steenhorst
Store Sales	Peter Martin
CP/M-C128	<u>vacant</u>
News. Ed.	Bob Mason
Membership*	<u>vacant</u>

* my notes show Education Director elected and Membership Chairman appointed. In the meeting it was Membership elected and Education appointed. Which is right?

These nominations/appointments were announced at the last meeting. Anyone who is interested in standing for election in any of the Elected positions should arrange to have someone nominate him/her at the next meeting. Elections will be held (by show of hands) for any positions with more than one nomination.

Anyone interested in any of the Appointed positions should indicate their interest to the Executive, who will choose from among applicants according to interest, experience and other qualifications.

Elections are held in May, with the new Executive taking

continued on page 15

VOLUME 2 IN REVIEW

=====

by Bob Mason

I started editing this Newsletter in May of 1985, so I thought it might be a good time to take a look back on the past year.

I produce the newsletter on a C64 using PAPERCLIP and a Star SG10 printer. And I'm still learning some of the tricks involved with the software and the printer.

The cover pages are printed and the inside pages are photocopied. While photocopying does not produce nearly as sharp copy as printing, it is at least 10% cheaper, and faster (I seldom make deadlines, but Pat Meehan and Double L Printers always do.)

I always felt that I was writing too much of the copy, and taking too much from other publications. Yet in the past year those sources only accounted for one-third of the feature pages. Two-thirds came from members. That's good! But half of that contribution came from only two members, meaning all other members (including the executive) contributed one-third of the feature pages in the past year. Not bad, but could be better.

After the last issue, I realized that I was putting too much emphasis on filling the Newsletter with type, and not making it look nice. Not much point in having all these good articles if they look so oppressive that nobody reads them! (I look at the Butterfield and Frajkor articles and shudder.)

Another issue where I have failed miserably is in advertising. People have advertised and haven't been billed yet. People want to advertise and haven't been contacted. Needless to say, anyone interested in helping in this area would be welcomed with open arms.

As it is right now, your \$15 membership fee pays for the printing and mailing of the Newsletter, with a little bit left over, and the profit from disk sales covers all other club expenses (school rental, BBS equipment, speaker expenses, etc.) with a little bit left over.

Those little bits add up and the club has some surplus funds. The attitude of the present executive seems to be to spend that money publicizing the club, and perhaps bringing in more high-profile speakers. Any increase in size of the Newsletter would have to be covered by increased advertising revenue.

That's the way it works. I'd appreciate any feedback you could give me on:

- when you receive the Newsletter (Friday before, Tuesday after General Meeting, etc.)
- what are your feelings about the format/style/legability of the Newsletter?
- what parts of the Newsletter do you read (agenda, upcoming meetings, C64 Game Design, software reviews, other features, etc.)?

What are we doing right? wrong? We'd appreciate the feedback.

=====

SOMETHING FAST, SOMETHING CHEAP

=====

by Jan Frajkor

I've owned an Epson MX-80 printer for the past three years and I must say that it's always printed beautifully and never given me any repair problems. But let's face it -- 80 characters per second is no longer blazing speed these days, when even printers a lot cheaper and less sturdy than the Epson hit 120 or even 160 without straining themselves.

So, here's what you can do if you have an older, slower printer. I'm going to talk about the Epson because that's the one I know, but remember that all printers operate on the same basic principles. This should work with any of them. I'll qualify that statement later.

All printers, like computers, have to have a steady timing signal (a clock speed) to which all their functions are synchronized. In the case of the Epson, that signal is provided by two six-megahertz crystals, which sit there at each end of the Epson circuit board vibrating away at six million cycles per second. They look like little silver, flattened metal Spam cans.

Take those out, put in two 10-megahertz crystals, and all of a sudden everything your printer does is done at a 40 per cent higher speed -- in the case of my printer, close to 120 characters per second. Brings it right up to modern specifications. If you were to put in 12-meg crystals, you

would double the speed. This is a statement I will really qualify in a little while.

So, you ask, how much? and how complicated? You can get 10-meg crystals for just under \$3 each at most electronic supply stores, like Active Components at 1025 Merivale Road. Ask for HC18 crystals. Radio Shack sometimes has them, but usually charges you more.

You can do it yourself if you are a tinkerer, because it's just a straight-forward unsolder and re-solder the tails job, but if you are queasy about doing things yourself, any good computer repairman can do it for you with no more than an hour's work -- less than an hour if your printer is as straight-forwardly built and as easy to take apart as an Epson. Some are not. But if you have schematics, a careful touch, and patience, it should be no problem.

Does it do any harm? Well, it hasn't hurt my printer yet, and for all I know it may even help because the machine now finishes its work faster and has more time to rest. If you are already running your printer 24 hours a day or near that, then clearly you'll get more work done but you'll really be wearing out the printer parts. That's the tradeoff. You can run your car at 150 kilometers per hour or at 100, and you should expect more wear at the higher speed.

But my experience is that

continued on page 14

IS A.I. IN OUR FUTURE?

=====

by Bob Mason

The theme of the May meeting is Artificial Intelligence. I'm not sure I can add much of value, especially anything more than Butterfield said last month in his excellent article.

I read an article in the *Citizen* a couple of months ago (I should have kept it so I'd have my facts right). Way back when, someone (I think it was A.M. Turing) posited that a machine (computer) would be as intelligent as a human when it could carry on a written dialogue with a human, the dialogue being such that the human could not tell whether he/she was communicating with a machine or a person.

On face value, this seems a pretty difficult task. Taken the vagaries of language, a computer that could handle the complexities of meanings, metaphors and similes, the use of sarcasm, hyperbole, and all the other nuances would be a pretty formidable machine.

I'm sure you've seen examples of the ELIZA program, and how wrong it can get. I've seen reviews which describe it not as a serious program but as a party game.

Anyway, somewhere in the States they had a chess contest, where an expert player played against five (I know I've got the numbers wrong) hidden opponents, of which two were computers. The contest attracted a lot of attention,

and the audience, as well as the expert, were asked to guess which two of the opponents were computers.

The expert did fairly well, winning three of the games, but was not as successful in identifying his computerized opponents. The audience, however, did much better; almost 70% identified the computers correctly. The article concluded that computers had failed the Turing test.

Adam Herst in *TPUS* proposes a more modern version of the Turing Test, one which has an eerie 2001-ring to it.

"Imagine you are in a space ship stuck in an earth orbit. The ship is equipped with the most sophisticated computing devices, capable of English language information exchange, and sensitive to the emotional side of human beings. All of your communications are cut off, both to the computer and to ground stations on earth.

"Suddenly your computer terminal activates, and you are able to establish communications with someone named Hal. You begin an extended conversation, during which Hal enquires about your physical and emotional well-being, and expresses concern over your situation. Eventually, you find out that a method has been found to return you to earth. Before you can learn more, the communication stops, and you are returned to your solitude and left to wonder as to the source of the transmission. Was it the folks back

home, or your onboard computers? From the information you received on your terminal, you would not be able to distinguish whether you were talking to a man or a machine." HAL, where are you now when we really need you.

AI is heralded as the way of the future, and perhaps the key to the coming Japanese invasion. That oft-predicted invasion has been in the wings for years, but has not been able to make it by hardware

alone -- we were able to handle that. But in software, how far have we come? 50 years ago Turing provided computers with a test which, reduced to the simple terms of a chess game, our computers have not been able to pass.

It is surely not a matter of hardware, but of software. And more likely, it is a matter of a new way of thinking; a way that makes such distinctions as between hardware and software meaningless.

=====

THE LAST WORD



C-64 GAME DESIGN

=====

Nineteenth of a series
by John Batchelor

As promised, this month I want to look at some of the programs that have been distributed on our club disks which can be used to create games and other diversions without learning machine language. It seems that one particular breed of programmer loves to spend months bit-twiddling just to deny you that particular masochistic pleasure. They have added extra BASIC commands, utilities and SYS calls to handle sound, sprites, music and high resolution plotting with convenience and speed impossible from ordinary BASIC. So those of you whose great game ideas bog down in slow or involved programming can take heart. Dig out these programs and go to it!

I'll go in reverse chronological order since more of you will have recent disks than the golden oldies. Disk #40 contains PGM from *Power/Play* March '86. This is a very flexible BASIC extension of numerous SYS commands which handle hi-res plotting, multiple fonts, sprites and memory manipulation including data compression. All it needs is sound. I'm trying it out for an old challenge -- FROGGER in 3-D perspective.

Disk #36 has ANIM3D which adds new commands for hi-res plotting and animation in 3D. It could be used for a game where you fly around an enemy spacecraft or building. Docu-

mentation is in *Compute!* November '85.

Disk #35 has COLOR PLOTTER. This adds commands for Hi-res plotting and putting big labels on the screens. See *Compute!* for October '85. This might be good for educational games dealing with geometry. SUPERSOUND is also on this disk from *Transactor* v6#4. It adds 18 sound commands to BASIC. You'll need the magazine because no instructions or demos are on Disk #35.

Disk #34 also has two programming aids. X-BASIC is from the October '85 *Gazette*. It has 33 graphic, sprite, sound and joystick commands. BASIC 4.5 was featured in *Run* magazine from June, July and August of last year. It does not have hi-res plotting but it does handle sound, sprites, joysticks, windows, disk commands, screen dumps, printer echo and enhanced editing like the escape codes on the C128.

Disk #32 has two programs from the *Gazette* for August '85: HI-RES TOOLBOX and TEXT PRINT. The first is a relocatable routine for hi-res plotting. The second lets you print text on your hi-res screens. The two programs can be used together.

Disk #31 has TRANSBASIC from *Transactor*. This is the fourth installment of a continuing series in this magazine where many authors contribute routines for sprites, sound, memory manipulation and so on. You can assemble your own custom BASIC. There are

now nine installments, all available for \$9.95 from the magazine for the typing-weary (including an assembler).

Disk #30 has a 3D plotting utility from the obscure *Dr. Dobb's Journal* (May '85). This not only draws cylinders, spheres, toroids and polyhedra but it also shades them to add a sense of depth.

Disk #28 has METABASIC from the April '85 *Gazette*. This program is a programming aid. It adds disk, trace and editing commands that make programming and debugging easier although there are no sprite, sound or plotting dazzlers.

CC.PLOT from *Compute!* for December '84 is on Disk #25. This utility aids in plotting conic sections (e.g. parab-

olas) and might be handy for an educational game.

Disk #23 has SYS.AID for adding sound commands to BASIC (*Run* Sept. '84) and S.CODE (*Run* Oct. '84) which adds background music to your programs. SYSOUND (*Compute!* Sept. '84) on Disk #22 also adds sound commands.

The above utilities cover just about anything you might want. Some even can be combined or customized. For the perpetually curious, you also might investigate SUPERBASIC on Disks #13 and #14, SPRITE-BASIC on #12, GRFX on #11 and HIRES.BASIC on #8.

I hope the work of all those other C64 programmers who tried to make your life easy has inspired you.

SEARCH-A-WORD PUZZLE

by Bruce Schowalter

This program came from a French book, *Vic 1'Affiche*. I added a screen dump from *Run* and it works well.

The program was originally written for the Vic20, and only 15 words can be hidden, each no longer than 12 letters.

Find 15 words, running vertically, horizontally or diagonally, reading forward or backward, up or down. Hint #1: all words are related to computing. Hint #2: the word list can be found later in this Newsletter.

DYSTVQSBIMZPCJQTQTNA
HHEPSIVWYQKWWFMYFQ
LFTJZKHQFMJPIWFOQEW
BWAPPLEIICQNOIREPYHA
EGFZRCOMMODORE128GKP
DSMPNPPHPUNHSOTNICAM
MCSJXLNTUAFJDEWSIHI
OVOKFZ02CIVPLNMXPJKA
AKRLDJ4IBMPCHAXAKHAM
JKQBEMS6BEUQ9KCPMGMP
OU2FTCJKEEE9VCBWPIFN
ELOQDAOARRIREWMTZVGO
GXCLNZNAFTOBTNPPLBFA
ZYOTMUIDDUODCRENDQSU
HQCXTWSYABOONTNXAIA
UQWNFQRYSIMZHMNGZIG
THQFZGJSANQBIKMMOKHC
GQZRERRSNVQPSOJQYJ
JORLIWBR0B0XVCCCUU
XNQS NATARIST520KRHDB

=====

RAMBLINGS
by Bob Mason

Just some miscellaneous notes this time around on things I've picked up here and there.

The most traumatic event of the past while was my computer quitting. Actually, the joystick in port 2 wouldn't recognize a push to the left.

At first I thought it was the software until I tried another game which required port 2. And it wasn't the joystick. So I phoned up Bits & Bytes (they'd been advertising in the *Citizen* classifieds) and they confirmed my suspicions that it was the PIA chip (Peripheral Interface Adapter). They estimated a \$60 repair bill (\$30 for the chip, \$30 for one hour's labour) but said bring it in for a free accurate estimate.

So I took it to them (way out in the Merivale Industrial Park). They phoned back to confirm their earlier prognosis, and the bill would be \$62.50. I told them to go ahead, and went out to pick it up 24 hours after I'd dropped it off. It appeared to work fine in the shop, so I took it home. Now it wouldn't recognize the disk drive.

Phone 'em up again. 'Oh, that sounds like the other PIA chip has gone as well, sometimes a weakness in one blows the other'. Take it back. Pick it up 24 hours later (I spent 4 lunch hours driving out to Nepean). Took it home and it's worked perfectly ever since.

They didn't charge me for the second chip, so I ended up

with two new PIA chips (now both in sockets so I can replace them myself) for \$62.50. And they were quite friendly, offered advice, etc. Probable cause -- static electricity (likely, since I noticed I would get a spark just touching the joystick after walking across the room).

On the bulletin board I asked people for feedback about repair places. I tried to put the above report on the bulletin board, but ran out of space. If anyone encounters the same problem, just continue on with a second note; I'll follow the thread through.

HOT PRINT HEADS

I was talking to a printer repairman the other day and he told me some printers heat up while sitting idle.

It seems that some printer heads have the pins retracted by electromagnets, and when printing, the magnets are turned off, and springs push the pins out. He warned that for printers designed this way, having them sit idle, turned on, causes the print head to heat up to the point where the springs may weaken.

I was going to include this with the printer article in this issue, but I noticed that it's not true for my printer -- the print head stays cool when the printer is turned on but not in use (in spite of the "HOT" warning label on the head), so I stuck it in here. If your printer head heats up when the printer is on but not in use, don't turn your printer on until you're going to use it.

COPY PROTECTION, PART 19

Copy protection is once again a hot topic now that hard disks are being widely used in home computing; a protection-breaking scheme is needed to transfer a program to hard disk. The multi-tasking Amiga has been the main cause of the discussion, since you can't run a protected program while the Amiga is recalculating a spreadsheet, or whatever.

TPUB has been monitoring discussions with users and Electronic Arts on CompuServe's Amigaforum. Here are some of EA's responses:

"We always have and probably always will protect our games. I have yet to hear a valid argument against that. Our utility programs, especially the Deluxe series, are being released protected for now. However, we are doing lots of research into alternative methods, and are packaging our next release of DPaint with two copies already, plus the ability to purchase more backups. Some of our alternative methods include: starting the program by displaying a black & white digitized picture of the package cover, and having the user tell the program what color a particular object on the package is; 2) Having a special phone-order for non-protected disks and having that user's copy programmed to display his Visa/MC card # upon bootup; 3) Having two separate versions, mass market (cheap and protected) and specialty (expensive and non-protected).

"Any other suggestions for alternative protection are greatly appreciated. Please don't ask us to trust all of

you completely. We've been burnt too often by pirates in the past. But we're trying."

In response to a software developer who insisted that his software not be copy protected, EA wrote:

"I have a proposal. What is your opinion if we: a) continue to sell our utilities protected, although the protection is of the type that lets you make backups. When booting, it requests that you insert the master disk to verify the signature. However, b) enclosed in the package is a card that lets you, with proof of purchase, buy a completely unprotected version for say \$10-\$20. I think that most users will not be upset at just using the first version, but for those who really need it, the unprotected version will be available. To purchase the unprotected version, we will probably have on the card some sort of site license/non-piracy agreement to sign, and/or we might encrypt (but not display) your name, address, etc. in the disk we send you. Again, this is just a proposal, so I want your feedback."

TPUB continues "Response to this has been generally favourable. EA is to be commended on their continuing dialogue in this matter. Drop a line to EA if you have any constructive ideas on this very important subject."

=====

THIS IS YOUR
CLUB!!!

GET
INVOLVED!!!

SOMETHING CHEAP from page 7

printers like the Epson are under-rated and that even 120 cps is a conservative speed. I've heard that speeding it up even more will work, but you might begin to lose characters and get excessive heating of the print head and wear on the pins. I've played it safe.

So here's the qualifiers: some of the cheaper printers don't have components as sturdy as, say, the Epson MX or FX series. You'll get the extra speed out of them, but you'll shorten their life a lot, especially in continuous use rather than burst use.

Others have already been boosted just this way to near their maximum. That, in fact, is how some manufacturers were able to make this year's model a faster printer than last year's -- they put in higher-speed crystals.

If you tried to boost a printer like that any more, you may be going over the machine's electronic and mechanical limits. Check your manual or ask your manufacturer's representative. A 50% boost probably doesn't do much harm to a printer in normal home and small-business use. It certainly has not harmed mine, and the speed increase is gratifyingly useful.

More than that might be trouble.

By the way, a very detailed set of instructions on how to modify the MX-80 appeared in the December, 1985, issue of *TRS 80 Micro* for those of you who have access to it. Try a library if you don't, or ask someone on the local TRS bulletin boards.

You'll enjoy life in the fast lane.

SEARCH-A-WORD
LIST

DE MOT8(5-15)? 15
(<12 LETTRES)
MOT 1 ? COMMODORE64
MOT 2 ? AMIGA
MOT 3 ? VIC20
MOT 4 ? COMMODORE128
MOT 5 ? ATARIST520
MOT 6 ? APPLEIIIC
MOT 7 ? MACINTOSH
MOT 8 ? TANDY1000
MOT 9 ? CBMPET
MOT 10 ? COLECOADAM
MOT 11 ? TI99A
MOT 12 ? IBMPC
MOT 13 ? COCO2
MOT 14 ? HYPERION
MOT 15 ? TRS80

CLASSIFIED

WANTED: Used Printer Ribbons,
any type. Please call Bruce
Brown, 729-6718.



MINUTES from page 7

over in September (the summer is a break-in period).

Marv Bero, who has taken over TPUG disk distribution, explained that new disks are now available, and encouraged club members to join TPUG as well (the excellent *TPUG Magazine* is worth the membership fee itself).

Pierre corrected an error in the announced date of the Maplecon Conference--it's July 11-13, not July 25-27.

Don White talked about the BBS (new equipment is on the way) and registration procedure (you can do it on the screen). Then Don introduced the newly-appointed Eastern Ontario rep for Commodore, Ann Hutchison.

Ann told of the special Canadian promotion for Amiga -- a package deal including a 256K upgrade, monitor, 5 1/4 inch drive + 3 software packages. Ann quelled any fears of Commodore dropping the 64; they can't keep it in stock. She hinted that something

interesting was coming for the 64.

She also indicated that the 128 was doing very well, and the PC10 was dominating the European market.

Ann fielded several questions from the floor and will be at future meetings to do the same.

The April Fools specials included Zappy Zooks, a Microtek (?) printer cable that the company admits doesn't work, a modem for Commodore which uses Apple software and European plugs, and Exciting Games to Type which was not at all exciting.

The Apple SIG featured Paul Irwin's board, as promised. The Hi-res was impressive. Scotty demonstrated the INJURED ENGINE software, and the meeting then degenerated into a war over who got taken the worst with software, books, light pens, etc. Everyone had a chance to be an April Fool.

=====



Want some more ideas for articles? I know there are a lot of members who would like to hear from someone who's got a C128. Or an Amiga. Or any new product, really. It doesn't matter that all the magazines have reviewed it to death -- give it your point of view. And people that read your review will probably trust what you say more than they'll trust a review in one of the mag's. They may even phone you up with a question or two.

MACCOM SYSTEMS LTD.

PERSONAL-COMPUTERS SOFTWARE HARDWARE
DISKETTES & SUPPLIES

Specializing in software/hardware
and accessories for

COMMODORE
IBM
APPLE MAC

**HOW TO
SHOP AT
MACCOM**

**749-1232
BY PHONE**

Join **TPUG** the World's largest Commodore users' group



- Free information-packed **Monthly Magazine**
- Access to 4000 **Public Domain Programs**
- Annual **Convention**
- Member **Bulletin Board**
- For \$30.00 (\$20.00 for students), all the above and attend the many TPUG meetings in the **Toronto Area**

* * * * *

SPECIAL RATES FOR OTTAWA HOME COMPUTING CLUB MEMBERS

See Marv Bero for Details

* * * * *